

REMARKS

I. PRELIMINARY REMARKS

Minor modifications have been made to the specification. Claims 1-30 have been canceled. Claims 31-46 have been added. Claims 31-46 remain in the application.

II. DISCUSSION CONCERNING PRIOR ART REJECTIONS APPLIED IN PARENT APPLICATION SERIAL NO. 10/243,258 ("the parent application")

A. The Rejections

Claims 31 and 33-36 were rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Beauchamp and Sugiura patents in the parent application.¹ Claim 32 was rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Beauchamp, Sugiura and Ikado patents in the parent application.² To the extent that such rejections are pertinent to the present application, the following remarks are provided in order to advance prosecution.

B. The Beauchamp and Sugiura Patents

The Beauchamp patent is directed to a printer carriage 10 that includes a rear bushing 70, which rides on a rear slider rod SR, and a pair of front bushings 80 and 82, which ride on front slider rod SF. All three of the bushings have an open C-shape. The rear bushing 70 includes a pair of lands 94 and 96, while the front bushings 80 and 82 include respective pairs of lands 90 and 92. The front bushings 80 and 82 also appear to include a small tab (not numbered) that engages the front

¹ Current claims 31 and 33-36 were numbered 38 and 40-43, respectively, in the parent application, and current claim 36 has been modified slightly as compared to claim 43 in the parent application.

² Current claim 32 was numbered 39 in the parent application.

slider rod SF. In order to prevent vibration induced rotation about front slider rod SF, the Beauchamp rear bushing 70 is movable and is biased away from the front bushings 90 and 92 and against the rear slider rod SR by a spring 106. [Column 4, lines 1-25.] Additionally, the position of the lands 90-96 on the front and rear bushings 70, 80 and 82, coupled with the biasing force that biases the rear bushing away from the front bushings, permits free sliding of the carriage 10 while reducing rotation of the carriage about the front slider rod SF and results in the formation of "two strategically located lines of contact with the associated slider rods." [Column 4, lines 45-53.]

The Sugiura patent discloses a printer having a guide rod 13 that is supported on a platen 1 and a carriage 14, which supports a dot-matrix printhead 39, that rides on the guide rod. The carriage 14 includes a flat bearing portion 18 that slides along the flat upper end 5a of the platen front plate 5 in order to maintain the carriage 14 in the horizontal position. [Note Figure 3 and column 5, lines 31-45.] The carriage 14 also includes a lug 19 that is positioned below the front plate upper end 5a such that there is a space therebetween.

C. Discussion Relevant to Claims 31-36

Independent claim 31 calls for a combination of elements including, *inter alia*, "a guide rail," "a pair of bushings through which the guide rail extends, each bushing including an inner region with at least three spaced rail contact regions separated by respective non-contact regions" and "an anti-rotation pin, in spaced relation to the bushings, within [a] c-shaped guide." Applicant respectfully submits that the Beauchamp and Sugiura patents fail to teach or suggest such a combination and that a rejection under 35 U.S.C. § 103 based thereon would be improper for a number of reasons.

For example, "it is insufficient to prove that at the time of the claimed invention, the separate elements of the device were present in the known art." *Winner International Royalty Corp. v. Wang*, 48 USPQ2d 1139, 1144 (Fed. Cir. 1998). To the contrary, "there must have been some **explicit** teaching or suggestion in the art to motivate one of even ordinary skill to combine such elements so as to

create the same invention.” *Id.* (Emphasis added). Here, there is absolutely no reason, other than a hindsight attempt to replicate the claimed combinations, to combine the Sugiura patent’s “lug under a flat plate end” teaching with a dual slider rod printer such as that disclosed in the Beauchamp patent.

The March 18, 2003 Office Action in the parent application appeared to have found support for the proposed Beauchamp/Sugiura combination in the following passage from the Sugiura patent:

It is therefore an object of the present invention to provide a printer having improved supporting and mounting structures which permit easy mounting of a print head on a carriage with satisfactory accuracy of positioning of the print head in lateral, downward and rearward directions of the carriage. [Column 1, lines 31-36.]

Applicant respectfully submits that the above-quoted portion of the Sugiura patent fails to provide support the proposed Beauchamp/Sugiura combination and has nothing whatsoever to do with the Sugiura patent’s “lug under a flat plate end” teaching, which the March 18, 2003 Office Action in the parent application applied to the Beauchamp printer. The above-quoted portion of the Sugiura patent is actually referring to the manner in which the dot-matrix printhead 39 is mounted on the carriage 14, not the manner in which the carriage 14 is mounted on the platen 1 and guide rod 13. [See, for example, Figures 3 and 4 and column 10, lines 19-34.]

A rejection based on the proposed Beauchamp/Sugiura combination would also be improper because replacing the Beauchamp rear bushing 70 and spring 106 arrangement with the Sugiura flat end 5a, bearing portion 18 and lug 19 arrangement would prevent the Beauchamp printer from operating in its intended manner.³ The Beauchamp printer is specifically designed to provide two lines of contact on each of the slider rods for ease of sliding, and to maintain the lines of contact despite vibration forces in order to prevent the degradation of print quality that is associated with carriage rotation. Sliding the flat bearing portion 18 on the flat end 5a, as taught by Sugiura, could result in far more friction than Beauchamp’s two lines of contact. Moreover, there is clearly space between the bottom surface of the Sugiura flat end 5a and lug 19, which would allow the vibration induced carriage

³ As noted by the Federal Circuit and Patent Office Board of Appeals, it simply is not obvious to modify a prior art apparatus in such a manner that it will not function in

rotation, as well as the corresponding degradation of print quality, that the Beauchamp bushing arrangement eliminates.

As the Beauchamp and Sugiura patents fail to teach or suggest the combination of elements recited in independent claim 31, whether viewed alone or in combination, applicant respectfully submits that claims 31 and 33-36 are patentable thereover.

Turning to claim 32, the Ikado patent fails to remedy the above-identified deficiencies in the Beauchamp and Sugiura patents with respect to independent claim 31. As such, applicant respectfully submits that 32 is patentable for at least the same reasons as independent claim 31.

D. Additional Discussion Relevant to Claim 35

In addition to the elements recited in independent claim 31, the "at least three spaced rail contact regions are equally spaced" in the combination defined by dependent claim 35. The cited references fail to teach or suggest such a combination. Even assuming for the sake of argument that the small (unnumbered) tab on the Beauchamp bushings 80 and 82 is a "rail contact region," the small tab and the lands 90 and 92 are not equally spaced. The lands 90 and 92 are ninety degrees apart. As such, it simply is not possible for the small tab, the land 90 and the land 92 to be equally spaced and, referring to Figure 3B, the small tab is clearly farther from the lands than the lands are from one another.

Accordingly, for reasons in addition to those discussed above with reference to independent claim 31, claim 35 is patentable over the Beauchamp and Sugiura patents.

III. NEWLY PRESENTED CLAIMS 37-46

Newly presented claims 37 and 38 depend from independent claim 31 and, accordingly, are patentable for at least the same reasons as claim 31.

its intended manner. See *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984) and *Ex Parte Weber*, 154 USPQ 491, 492 (Pat. Off. Bd. Ap. 1967).

Newly presented independent claim 39 calls for a combination of elements comprising "a printing component support," "a guide rail," "a pair of bushings through which the guide rail extends, each bushing including an inner region with at least three spaced bearing surfaces separated by respective non-contact regions," "a substantially c-shaped guide" and "an anti-rotation pin, in spaced relation to the bushings, within the c-shaped guide." The cited references fail to teach or suggest such a combination. For example, the small Beauchamp tab, which is located next to the opening in the c-shaped bushings, is not a "bearing surface." Applicant respectfully submits, therefore, that claims 39-46 are patentable thereover.

IV. CLOSING REMARKS

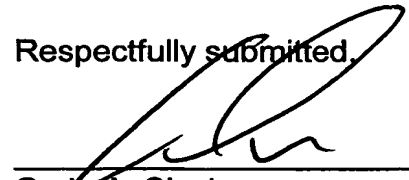
Early and favorable consideration of the application, as amended, are respectfully requested. Allowance of the claims at an early date is courteously solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is respectfully requested to call applicant's undersigned representative at (310) 563-1458 to discuss the steps necessary for placing the application in condition for allowance.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 08-2025. Should such fees be associated with an extension of time, applicant respectfully requests that this paper be considered a petition therefor.

6/25/03
Date

Henricks, Slavin & Holmes LLP
840 Apollo Street, Suite 200
El Segundo, CA 90245
(310) 563-1458
(310) 563-1460 (Facsimile)

Respectfully submitted,



Craig A. Slavin
Reg. No. 35,362
Attorney for Applicant